

1986-2000 NHIS LINKED MORTALITY FILE: 2007 Public Release

Detailed Notes for Selected Variables

PUBLICID—NHIS Public ID Construction

All NHIS Linked Mortality Data Files can be linked to the NHIS public-use files by matching on the unique person-level NHIS public-use Id number. Users should construct NHIS public-use Id numbers for each NHIS survey year as follows:

1986-1994

<u>Item</u>	<u>NHIS Linked Mortality File Location</u>	<u>NHIS Public-use File Location</u>	<u>Variable Type</u>	<u>Variable Length</u>	<u>Description</u>
*Year (2-digit)	1-2	3-4	char	2	Year of interview
Quarter	3	5	char	1	Calendar quarter of interview
PSU	4-6	6-8	char	3	Random recode of PSU #
Week	7-8	9-10	char	2	Week of interview within quarter
Segment	9-10	11-12	char	2	Segment number
Household	11-12	13-14	char	2	Household number within quarter
Person number	13-14	15-16	char	2	Person number within household

Note: Concatenate all variables to get the unique person identifier. All variables are zero filled.

1995, 1996

<u>Item</u>	<u>NHIS Linked Mortality File Location</u>	<u>NHIS Public-use File Location</u>	<u>Variable Type</u>	<u>Variable Length</u>	<u>Description</u>
*Year (2-digit)	1-2	3-4	char	2	Year of interview
Household ID	3-12	5-14	char	10	Household ID number
Person number	13-14	15-16	char	2	Person number within Household

Note: Concatenate all variables to get the unique person identifier. All variables are zero filled.

1997-2000

<u>Item</u>	<u>NHIS Linked Mortality File Location</u>	<u>NHIS Public-use File Location</u>	<u>Variable Type</u>	<u>Variable Length</u>	<u>Description</u>
*Year (4-digit)	1-4	3-6	char	4	Year of interview
Household Serial #	5-10	7-12	char	6	Household serial number
Person Number	11-12	15-16	char	2	Person number within Household
Blank (no data)	13-14	-	-	2	-

Note: Concatenate all variables to get the unique person identifier. All variables are zero filled.

*The SAS Input Statements available from the NHIS public-use data websites input the variable YEAR as numeric with a length of three for survey years 1986-1996. For survey years 1997-2000, the variable SRVY_YR is input as numeric with a length of four. To properly merge the 1986-2000 NHIS Public-use Linked Mortality Files to the 1986-2000 NHIS Public-use Files, our recommendation is to input the variable YEAR as character with a length of two for survey years 1986-1996 and to input the variable SRVY_YR as character with a length of four for survey years 1997-2000.

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PUBLICID_2 – NHIS Public ID-2 Construction

For users who prefer to include the NHIS family serial number in the NHIS public-use Id number, an additional public-use Id, PUBLICID_2, has been included on the Public-use NHIS Linked Mortality Files. PUBLICID_2 is only available on the NHIS 1997-2000 Linked Mortality Files. Refer to the detailed notes above for the creation of the NHIS public-use Id number, PUBLICID, for NHIS survey years 1986-1996. Both PUBLICID and PUBLICID_2 provide unique person-level Id numbers.

1997-2000

<u>Item</u>	<u>NHIS Linked Mortality File Location</u>	<u>NHIS Public-use File Location</u>	<u>Variable Type</u>	<u>Variable Length</u>	<u>Description</u>
*Year (4 digit)	50-53	3-6	char	4	Year of interview
Household Serial #	54-59	7-12	char	6	Household serial number
Family Serial #	60-61	13-14	char	2	Family serial number
Person number	62-63	15-16	char	2	Person number within Household

Note: Concatenate all variables to get the unique person identifier. All variables are zero filled.

Although the Family Serial Number is provided with the PUBLICID_2 variable, users should note that the [eligibility adjusted weight](#) provided on the NHIS Linked Mortality Files is specific to the **person-level** NHIS files. Eligibility adjusted weights specific to the sample adult files, sample child files, family level files, or any NHIS supplemental files have NOT been created.

*The SAS Input Statements available from the NHIS public-use data websites input the variable SRVY_YR as numeric with a length of four for survey years 1997-2000. To properly merge the 1997-2000 NHIS Public-use Linked Mortality Files to the 1997-2000 NHIS Public-use Files, our recommendation is to input the variable SRVY_YR as character with a length of four.

ELIGSTAT – Eligibility Status for Mortality Follow-Up

All NHIS participants are included on the Linked Mortality Files, but only NHIS participants at least 18 years of age at time of interview were eligible to be submitted to the NDI. Those 17 years or younger at the time of the NHIS interview were ineligible for matching with NDI records. A second group of NHIS participants were defined as ineligible for mortality linkage because of insufficient identifying data to create a NDI submission record. The percentage of NHIS respondents 18 years and older who are ineligible due to insufficient data markedly increased in 1997 compared with prior years ([See Tabular Data, Tables 1 and 3](#)).

The eligibility status variable is available to users because ignoring NHIS participants who are ineligible due to insufficient identifying information may lead to biased mortality analysis. To account for this, NCHS developed new sample weights that are available on the 2007 public release NHIS Linked Mortality files. (See [Analytic guidelines](#) and [Guide to Weighting and Variance Estimation in the 1986-2000 NHIS Linked Mortality Files](#)).

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MORTSTAT – Final Mortality Status

The *MORTSTAT* variable is NCHS's final determination of vital status and should be used as an outcome variable and to calculate survival. Each NHIS participant who is eligible for mortality follow-up is assigned a vital status code (0 = assumed alive; 1 = assumed deceased). The ascertainment of vital status for NHIS participants with matches to NDI records is based upon the NCHS recommended criteria determined by a calibration study.

DIABETES, HYPERTENS, & HIPFRACT—Multiple cause of death flags

The 1986-2000 NHIS Public-use Linked Mortality Files provide 113 grouped underlying cause of death codes (UCOD-113) and three multiple or contributing cause of death flags for diabetes, hypertension, and hip fractures.

These flag variables indicate that the condition was recorded on the death certificate as a multiple or contributing cause of death. More detailed information regarding [ICD underlying and multiple cause of death codes](#) can be found on the [1986-2000 NHIS Restricted-use Linked Mortality Files](#). The multiple cause of death flag variables were coded as follows:

DIABETES = '1' if ICD-9 code '250' or ICD-10 codes 'E10 thru E14' was coded in the entity-axis multiple cause of death codes

HYPERTENS = '1' if ICD-9 codes '401' or '403' or ICD-10 codes 'I10' or 'I12' was coded in entity-axis multiple cause of death codes

HIPFRACT = '1' ICD-9 code 'E820' or ICD-10 codes 'S720 thru S722' were coded in entity-axis multiple cause of death codes

WGT_NEW - Weight Adjusted for Ineligible Respondents

The *WGT_NEW* variable is an eligibility-adjusted sample weight for all adult respondents who are in the annual NHIS person files. *WGT_NEW* = 0 for all ineligible individuals. This new person-level sample weight accounts for ineligible status due to insufficient identifying information for linkage (See [Analytic guidelines](#) and [Guide to Weighting and Variance Estimation in the 1986-2000 NHIS Linked Mortality Files](#)). Users should note that the eligibility-adjusted weight is specific to the person-level NHIS files and eligibility adjusted weights specific to the sample adult files, sample child files or any NHIS supplemental files have NOT been created.

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PSU_POOL- New PSU defined for the NHIS years 1986 to 2000
STR_POOL - New strata defined for the NHIS years 1986 to 2000

For the 1986-2000 NHIS Linked Mortality Files, the NHIS years 1986-1994 and 1995-2000 are based upon two independent design structures, which cannot be combined easily using the original STRATA and PSU design variables. To serve the vast majority of data users who may wish to combine several years of the NHIS Linked Mortality Files to get reliable estimates for rare health characteristics or mortality outcomes, NCHS has created new design variables for variance estimation. The variables STR_POOL and PSU_POOL can be used in analyses that combine all or any years of data in the NHIS Linked Mortality Files. (See [Analytic guidelines](#) and [Guide to Weighting and Variance Estimation in the 1986-2000 NHIS Linked Mortality Files](#)).

UCOD_113 - Underlying Cause of Death 113 Groups All Years (ICD-10)

Cause of death coding for all U.S. deaths occurring prior to 1999 follows the 9th revision of the International Statistical Classification of Diseases, Injuries, and Causes of Death (ICD-9) guidelines, while all deaths after 1998 follows the 10th revision of the International Statistical Classification of Diseases, Injuries, and Causes of Death (ICD-10) guidelines. To assist the researcher with analyses that span the entire survey specific mortality period, the UCOD 113 variable was created as a recode of all deaths occurring prior to 1999 coded under ICD-9 guidelines into comparable ICD-10 based underlying cause of death groups.

Please refer to [Analytic Guidelines, Section VI](#) for information on ICD-9 and ICD-10 comparability.

For more on the comparability of ICD-9 and ICD-10 underlying cause of death UCOD 113 recode see: Anderson RN, Minino AM, Hoyert DL, Rosenberg HM. [Comparability of cause of death between ICD-9 and ICD-10: Preliminary estimates](#). National Vital Statistics Reports; Vol 49 No.2. Hyattsville, MD: National Center for Health Statistics. 2001. This document is also available on the NCHS website.

For more information regarding ICD-9 coding guidelines see the Manual of the International Statistical Classification of Diseases , Injuries, and Causes of Death: Based on the Recommendations of the Ninth Revision Conference, 1975, and Adopted by the Twenty-ninth World Health Assembly, Volume 1, 1977 (World Health Organization).

For more information regarding ICD-10 coding guidelines see the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision. (World Health Organization) 1992. Revision, Volume 1.

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Detailed Notes for Selected Variables

Tenth Revision 113 Selected Causes of Death

ST: 1 = Subtotal

Limited: Sex: 1 = Males; 2 = Females

Age: 1 = 5 and over; 2 = 10-54; 3 = 28 days and over;
 4 = Under 1 year; 5 = 1-4 years; 6 = 1 year and over;
 7 = 10 years and over

****Cause Subtotals are not identified in this file ****

113	S	Limited		
Recode	T	Sex	Age	Cause Title and ICD-10 Codes Included
001				Salmonella infections (A01-A02)
002				Shigellosis and amebiasis (A03,A06)
003				Certain other intestinal infections (A04,A07-A09)
004	1			Tuberculosis (A16-A19)
005				Respiratory tuberculosis (A16)
006				Other tuberculosis (A17-A19)
007				Whooping cough (A37)
008				Scarlet fever and erysipelas (A38,A46)
009				Meningococcal infection (A39)
010		3		Septicemia (A40-A41)
011				Syphilis (A50-A53)
012				Acute poliomyelitis (A80)
013				Arthropod-borne viral encephalitis (A83-A84,A85.2)
014				Measles (B05)
015				Viral hepatitis (B15-B19)
016				Human immunodeficiency virus (HIV) disease (B20-B24)
017				Malaria (B50-B54)
018				Other and unspecified infectious and parasitic diseases and their sequelae (A00,A05,A20-A36,A42-A44,A48-A49, A54-79,A81-A82,A85.0-A85.1,A85.8, A86-B04,B06-B09,B25-B49,B55-99)
019	1			Malignant neoplasms (C00-C97)
020				Malignant neoplasms of lip, oral cavity and pharynx (C00-C14)
021				Malignant neoplasm of esophagus (C15)
022				Malignant neoplasm of stomach (C16)
023				Malignant neoplasms of colon, rectum and anus (C18-C21)
024				Malignant neoplasms of liver and intrahepatic bile ducts (C22)
025				Malignant neoplasm of pancreas (C25)
026				Malignant neoplasm of larynx (C32)
027				Malignant neoplasms of trachea, bronchus and lung (C33-C34)
028				Malignant melanoma of skin (C43)
029				Malignant neoplasm of breast (C50)
030		2		Malignant neoplasm of cervix uteri (C53)
031		2		Malignant neoplasms of corpus uteri and uterus, part unspecified (C54-C55)
032		2		Malignant neoplasm of ovary (C56)
033		1		Malignant neoplasm of prostate (C61)
034				Malignant neoplasms of kidney and renal pelvis (C64-C65)
035				Malignant neoplasm of bladder (C67)
036				Malignant neoplasms of meninges, brain and other parts of central nervous system (C70-C72)
037		1		Malignant neoplasms of lymphoid, hematopoietic and related tissue (C81-C96)

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113	S	Limited		
Recode	T	Sex	Age	Cause Title and ICD-10 Codes Included
038				Hodgkin's disease (C81)
039				Non-Hodgkin's lymphoma (C82-C85)
040				Leukemia (C91-C95)
041				Multiple myeloma and immunoproliferative neoplasms (C88,C90)
042				Other and unspecified malignant neoplasms of lymphoid, hematopoietic and related tissue (C96)
043				All other and unspecified malignant neoplasms (C17,C23-C24,C26-C31,C37-C41, C44-C49,C51-C52,C57-C60,C62-C63,C66,C68-C69,C73-C80,C97)
044				In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior (D00-D48)
045				Anemias (D50-D64)
046		3		Diabetes mellitus (E10-E14)
047				Nutritional deficiencies (E40-E64)
048				Malnutrition (E40-E46)
049				Other nutritional deficiencies (E50-E64)
050				Meningitis (G00,G03)
051				Parkinson's disease (G20-G21)
052				Alzheimer's disease (G30)
053	1			Major cardiovascular diseases (I00-I78)
054	1			Diseases of heart (I00-I09,I11,I13,I20-I51)
055				Acute rheumatic fever and chronic rheumatic heart diseases (I00-I09)
056				Hypertensive heart disease (I11)
057				Hypertensive heart and renal disease (I13)
058	1			Ischemic heart diseases (I20-I25)
059				Acute myocardial infarction (I21-I22)
060				Other acute ischemic heart diseases (I24)
061	1			Other forms of chronic ischemic heart disease (I20,I25)
062				Atherosclerotic cardiovascular disease, so described (I25.0)
063				All other forms of chronic ischemic heart disease (I20,I25.1-I25.9)
064	1			Other heart diseases (I26-I51)
065				Acute and subacute endocarditis (I33)
066				Diseases of pericardium and acute myocarditis (I30-I31,I40)
067				Heart failure (I50)
068				All other forms of heart disease (I26-I28,I34-I38,I42-I49,I51)
069				Essential (primary) hypertension and hypertensive renal disease (I10,I12)
070				Cerebrovascular diseases (I60-I69)
071				Atherosclerosis (I70)
072	1			Other diseases of circulatory system (I71-I78)

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Recode T Sex Age Cause Title and ICD-10 Codes Included

073				Aortic aneurysm and dissection (I71)
074				Other diseases of arteries, arterioles and capillaries (I72-I78)
075				Other disorders of circulatory system (I80-I99)
076	1			Influenza and pneumonia (J10-J18)
077				Influenza (J10-J11)
078				Pneumonia (J12-J18)
079	1			Other acute lower respiratory infections (J20-J22)
080				Acute bronchitis and bronchiolitis (J20-J21)
081				Unspecified acute lower respiratory infection (J22)
082	1			Chronic lower respiratory diseases (J40-J47)
083				Bronchitis, chronic and unspecified (J40-J42)
084		3		Emphysema (J43)
085				Asthma (J45-J46)
086				Other chronic lower respiratory diseases (J44,J47)
087				Pneumoconioses and chemical effects (J60-J66,J68)
088				Pneumonitis due to solids and liquids (J69)
089				Other diseases of respiratory system (J00-J06,J30-J39,J67,J70-J98)
090				Peptic ulcer (K25-K28)
091				Diseases of appendix (K35-K38)
092				Hernia (K40-K46)
093	1			Chronic liver disease and cirrhosis (K70,K73-K74)
094				Alcoholic liver disease (K70)
095				Other chronic liver disease and cirrhosis (K73-K74)
096				Cholelithiasis and other disorders of gallbladder (K80-K82)
097	1			Nephritis, nephrotic syndrome and nephrosis (N00-N07,N17-N19,N25-N27)
098				Acute and rapidly progressive nephritic and nephrotic syndrome (N00-N01,N04)
099				Chronic glomerulonephritis, nephritis and nephropathy not specified as acute or chronic, and renal sclerosis unspecified (N02-N03,N05-N07,N26)
100				Renal failure (N17-N19)
101				Other disorders of kidney (N25,N27)
102				Infections of kidney (N10-N12,N13.6,N15.1)
103	1			Hyperplasia of prostate (N40)
104		2		Inflammatory diseases of female pelvic organs (N70-N76)
105	1	2	7	Pregnancy, childbirth and the puerperium (O00-O99)
106		2	7	Pregnancy with abortive outcome (O00-O07)

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Recode	T	Sex	Age	Cause Title and ICD-10 Codes Included
107		2	7	Other complications of pregnancy, childbirth and the puerperium (O10-O99)
108				Certain conditions originating in the perinatal period (P00-P96)
109				Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)
110				Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)
111				All other diseases (Residual) (D65-E07,E15-E34,E65-F99,G04-G12,G23-G25,G31-H93, K00-K22,K29-K31,K50-K66,K71-K72,K75-K76,K83-M99, N13.0-N13.5,N13.7-N13.9, N14,N15.0,N15.8-N15.9,N20-N23,N28-N39,N41-N64,N80-N98)
112	1			Accidents (unintentional injuries) (V01-X59,Y85-Y86)
113	1			Transport accidents (V01-V99, Y85)
114				Motor vehicle accidents (V02-V04,V09.0,V09.2,V12-V14,V19.0-V19.2, V19.4-V19.6,V20-V79,V80.3-V80.5,V81.0-V81.1,V82.0-V82.1,V83-V86, V87.0-V87.8,V88.0 V88.8,V89.0,V89.2)
115				Other land transport accidents (V01,V05-V06,V09.1,V09.3-V09.9, V10-V11, V15-V18,V19.3,V19.8-V19.9,V80.0-V80.2,V80.6-V80.9,V81.2-V81.9, V82.2-V82.9,V87.9,V88.9,V89.1,V89.3,V89.9)
116				Water, air and space, and other and unspecified transport accidents and their sequelae (V90-V99,Y85)
117	1			Nontransport accidents (W00-X59, Y86)
118				Falls (W00-W19)
119				Accidental discharge of firearms (W32-W34)
120				Accidental drowning and submersion (W65-W74)
121				Accidental exposure to smoke, fire and flames (X00-X09)
122				Accidental poisoning and exposure to noxious substances (X40-X49)
123				Other and unspecified nontransport accidents and their sequelae (W20-W31,W35-W64,W75-W99,X10-X39,X50-X59, Y86)
124	1	1		Intentional self-harm (suicide) (*U03,X60-X84,Y87.0)
125		1		Intentional self-harm (suicide) by discharge of firearms (X72-X74)
126		1		Intentional self-harm (suicide) by other and unspecified means and their sequelae (*U03,X60-X71,X75-X84, Y87.0)
127	1			Assault (homicide) (*U01-*U02,X85-Y09, Y87.1)
128				Assault (homicide) by discharge of firearms (*U01.4,X93-X95)
129				Assault (homicide) by other and unspecified means and their sequelae (*U01.0-*U01.3,*U01.5-*U01.9,*U02,X85-X92,X96-Y09, Y87.1)
130				Legal intervention (Y35, Y89.0)
131	1			Events of undetermined intent (Y10-Y34, Y87.2, Y89.9)
132				Discharge of firearms, undetermined intent (Y22-Y24)
133				Other and unspecified events of undetermined intent and their sequelae (Y10-Y21, Y25-Y34, Y87.2, Y89.9)
134				Operations of war and their sequelae (Y36, Y89.1)
135				Complications of medical and surgical care (Y40-Y84, Y88)